IV. B. 5. Wetlands

a) Background. Executive Order 11990, "Protection of Wetlands", was issued on May 24, 1974 to

> *".....avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practical alternative....."*

Executive Order 11990 was intentionally signed on the same day as Executive Order 11988, "Floodplain Management", and involves the same "Eight-Step" evaluation process discussed in detail in paragraph IV. B. 4 of the "Colorado Natural Resource Management Guide". As with floodplains, wetland impacts must pass the "no practical alternative" test.

Wetland impacts are also regulated by a host of other Federal regulations including the Clean Water Act, Section 363 of the 1990 Consolidated Farm and Rural Development Act (CONACT), and USDA Departmental Regulation 9500-3, "Land Use Policy".

Wetland identification is complex and involves several different rating criteria, depending on the Federal regulation being applied, which are interpreted by the following expert agencies: Natural Resource Conservation Service (NRCS), U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (COE), and the U.S. Environmental Protection Agency (EPA).

b) Governing Regulations.

(1) U.S. Executive Order 11990, Protection of Wetlands.

(2) U.S. Executive Order 11514, Protection and Enhancement of Environmental Quality.

(3) U.S. Department of Agriculture, Departmental Regulation 9500-3, Land Use Policy.

(4) Title 7, Part 1b and 1c, Code of Federal Regulations, U.S. Department of Agriculture's National Environmental Policy Act.

(5) National Environmental Policy Act, 42 U.S.C. 4321.

(8) Clean Water Act, Section 404, Dredge and Fill Permit Program.

(7) Food and Security Acts of 1985, 1990, and 1995 (Farm Bills).

c) Policy. Rural Development should not authorize, fund, or carry cut any proposed action that would (1) cause wetlands to be converted to another use or (2) otherwise diminish the natural and beneficial functions and values of wetlands and riparian zones unless there is clearly no practical alternative to the action. Whenever a proposed action is determined to have the potential for impacting a wetland, USFWS should be consulted early in environmental impact analysis process to evaluate the possible consequences of and protective requirements necessary concerning the action.

Procedures for evaluating pending Rural Development actions which could impact wetlands, as defined by E.O. 11990, are similar to those for floodplain analysis as discussed in detail in Resource Section IV. B. 4 of the *"Colorado Natural Resource Management Guide",* from an Executive Order perspective. Additional Federal Agency oversight is involved since wetlands also fall under the jurisdiction of the U.S. Environmental Protection Agency (EPA) as well as the U.S. Army Corps of Engineers (COE) from a Clean Water Act (CWA) perspective. Potential impacts to wetland areas are normally reviewed by the COE for projects requiring a CWA Section 404 permit for dredge and fill operations in waters and wetland areas covered by the CWA.

d) Status.

(1) Designated.

(2) Under study.

(3) Unevaluated.

e) Agency Jurisdiction. Three Federal agencies, the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency are charged with the primary oversight of wetland delineation and protection for wetlands not located on private farmlands.

The National Wetlands Inventory (NWI) of the U.S. Fish and Wildlife Service produces information on the characteristics, extent, and status of the Nation's wetlands and deepwater habitats. This information is used by Federal, State, and local agencies, academic institutions, U.S. Congress, and the private sector. The Emergency Wetland Resources Act of 1986 directs the Service to map the wetlands of the United States. The NWI has mapped 89% of the lower 48 states, and 31% of Alaska. The Act also requires the Service to produce a digital wetlands database for the United States. About 39% of the lower 48 states and 11% of Alaska are digitized. Congressional mandates require the NWI to produce status and trends reports to Congress at ten-year intervals. In 1982, the NWI produced the first comprehensive and statistically valid estimate of the status of the Nation's wetlands and wetland losses, and in 1990 produced the first update. Future national updates scheduled for 2000, 2010, and 2020. In addition to the status and trends reports, the NWI has produced over 130 publications, including manuals, plant and hydric soils lists, field guides, posters, wall size resource maps, atlases, and state reports, and has had numerous articles published by professional journals.

The U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency are tasked with delineating and helping to conserve wetlands with respect to the Clean Water Act. The U.S. Army Corps of Engineers may be consulted with respect to actions affected by the COE's Dredge and Fill Permit Program (Section 404 of the Clean Water Act).

Following are expert agency contacts:

(1) U.S. Fish and Wildlife Service (FWS).

U.S. Fish and Wildlife Services
Chuck Elliott, Regional Wetlands Coordinator
P.O. Box 25486
Denver, Colorado 80225

Contact: Chuck Elliott, (303) 236-7400

http://www.r6.fws.gov/

(2) U.S. Army Corps of Engineers (COE).

(a) Platte River Basin to the Continental Divide.

U.S. Army Corps of Engineers
Omaha District
Tri-Lakes Project Office
9307 State Highway 121
Littleton, Colorado 80128-6901

Contact: Tim Carey, (303) 979-4120

http://www.now.usace.army.mil/

(b) Rio Grande Basin and Arkansas River Basin to the Continental Divide.

U.S. Army Corps of Engineers
Albuquerque District
Environmental Resources Branch
4101 Jefferson Plaza, N.E.
Albuquerque, New Mexico 87109-3435

Contact: Mark Harberg, (505) 342-3351

http://www.spa.usace.army.mil/

(c) Colorado River Basin to the Continental Divide.

U.S. Army Corps of Engineers
Sacramento District
Environmental Division
1325 J. Street
Sacramento, California 95814

Contact: Sheri Bone, (916) 557-5100

http://www.spk.usace.army.mil/

(d) Kansas River Basin in eastern Colorado (i.e. Bonny Reservoir vicinity).

U.S. Army Corps of Engineers
Kansas City District
Environmental Division
601 East 12 Street
Room 610
Kansas City, Missouri 64106

Contact: Lee Fuerst, (816-983-3915

http://www.nwk.usace.army.mil/

(3) U.S. Environmental Protection Agency

U.S. Environmental Protection Agency
Region 8 Wetlands Program
Mail Code: 8-EPR-EP
999 18th Street
Denver, Colorado 80202-2405

Contact: John Brink

http://www.epa.gov/region08/

f) Location of Resource.

(1) The USFWS National Wetlands Inventory currently offers the following types of information available for downloading over their web-site @

http://www.nwi.fws.gov/nwi.htm

(a) **Dlgdata:** All available NWI 7.5' quad maps that have been digitized and converted to dlg (digital line graph) format. Dlg is a vector format developed by the USGS and the files are NOT images (gifs, jpegs). If you want to use the dlg files you must have GIS software (ArcInfo, Mapinfo, etc) that has the ability to import dlg format. The data is organized by USGS 250k map name so it is advised to have a USGS index book for the state in which your desired quads are located in order to find which 1:250k to access.

(b) **Arcdata:** All available NWI 7.5' quad maps that have been digitized and converted to Arc Export format. The data are organized by USGS 250k map name and so it is advisable to have a USGS index book for the state in which your desired quads are located in order to find which 250k directory to access maps - Status and ordering information about NWI products. An

explanation of NWI map codes and new additions to on-line dlgdata work areas in progress for digital wetlands data.

(c) **Metadata:** The NWI metadata file in ASCII and WordPerfect formats. Information in the files is applicable to all NWI digital wetlands data files and is in accordance with FGDC Content Standards for Geospatial Metadata.

(d) **Samples:** 14 sample quads in dlg, dxf, moss, grass, and arc formats along with acreage summaries for each quad.

(e) **Software:** Amls and smls for converting NWI dlg files to ArcInfo, unzipping software, parsing software and a public domain version of tar for MS-DOS.

(2) The USFWS National Wetlands Inventory also currently maintains an interactive web-site containing recorded wetland information @

http://ecos.fws.gov/nwi_mapplet/summap1.html

(3) The USFWS National Wetlands Inventory also currently maintains an interactive web-site for map inquiries @

http://www.nwi.fws.gov/maps_wais.html

g) Definitions.

(1) Flood. A general and temporary condition of partial or complete inundation of normally dry land areas from overflow of inland or tidal waters or from the unusual and rapid accumulation or runoff of surface waters from any source.

(2) Floodplain. The lowland and relatively flat area adjoining a lake, river, stream, or seacoast which is prone to periodic flooding.

(3) Riparian area. Floodplain and wetland areas along streams and rivers which commonly support an abundance of wildlife.

(4) Wetland. A zone of transition between a body of water and dry land that is regularly inundated or saturated by surface or ground water at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands typically include swamps, marshes, bogs, and similar areas.

The following types of wetlands are characteristic of Colorado locations:

(a) **Riparian Wetlands:** Cottonwoods, willows, and shrubs such as birch and alder are typical riparian plants found along rivers and streams of the foothills, intermountain basins and the plains. Riparian areas are natural corridors used by a variety of wildlife for food and shelter. Riparian areas along streams make up less 3 than percent of the Colorado landscape-but contain about 75 percent of Colorado's plant and animal diversity. Wetlands associated with riparian corridors help control floods and assist in keeping streams and rivers clear by reducing sediment loads.


Riparian wetland

(b) **Montane Wetlands:** Beaver ponds, small glacial ponds, wet meadows and fens (bog-like areas) can be found in the mountain valleys of the Rockies. Many mountain lakes have wetlands along their shorelines. Streams in mountain valleys generally have narrow flood plains, and wetlands occur as thin bands adjacent to their banks. Small pools formed by snowmelt in the alpine tundra have willow wetlands that attract elk in the summer months and can be seen in Rocky Mountain National Park. Fens are mountain wetlands that support a unique ecology of rare plants not found in other types of wetlands. One species of bulrush only grows in Alaska, Yellowstone, western Canada and in the High Creek Fen of South Park, Colorado. Fens produce peat that accumulates and forms a repository of 10,000 years of post glacial history. Peat is not good for garden soils due to low nutrient content. When added to garden soil, it hinders aeration and drainage. Peat produced by fens is not a renewable resource. Mountain fens act as natural filters cleaning ground and surface water. The High Creek Fen filters out high concentrations of heavy metals. Fens also act as sponges by absorbing heavy precipitation, slowly releasing it downstream, minimizing erosion and recharging ground water systems. Fens can be seen in South Park, and in Rocky Mountain National Park (RMNP). The town of Estes Park, Colorado, was hit by flood waters from the Lawn Lake dam failure in 1982. The Horseshoe Park wetlands in RMNP, being similar to fens,

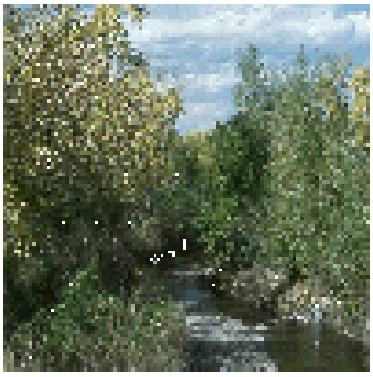
absorbed and slowed down the flood crest, preventing death and lessening the damage in Estes Park.


Montane wetland

(c) **Prairie Potholes:** When the glaciers retreated about 12,000 years ago, they left portions of North and South Dakota covered with depressions, creating the prairie pothole region. Although they comprise only about 10 percent of the nation's inland wetlands, these small depressions, ponds, and lakes provide habitats for over half of the waterfowl in North America. Prairie wetlands range in size from less than one acre to hundreds of acres. The pothole region is part of the most productive breeding habitat in North America for waterfowl and shorebirds.


Prairie potholes

(d) **Urban Wetlands:** Urban wetlands can be found along drainage ditches, in storm water detention ponds, irrigation canals and at the edges of small ponds and lakes. Many of these wetlands are cattail marshes with other wetland plants such as grasses, sedges and bulrushes. Urban wetlands are rapidly disappearing from around our growing cities and towns. Urban wetlands are used by schools to teach environmental education. These wetlands can also be critical-habitat for wildlife and in minimizing urban flood damage and are important for recreation.


Urban wetland

h) Other References.

1) USFWS National Wetlands Inventory home page

http://www.nwi.fws.gov/

2) USDA/RUS Environmental Program Library

(Full text of Executive Order 11990)

http://www.usda.gov/rus/water/ees/toc.htm#Orders